

WHAT IS CLAIMED IS:

1 1. A method in a second mobile services switching
2 center for updating location information of a mobile station
3 when said mobile station has moved from an area controlled
4 by a first mobile services switching center to an area
5 controlled by a second mobile services switching center,
6 said method comprising:

7 adding said mobile station to a second mobile services
8 switching center database in response to said mobile station
9 registering with said second mobile services switching
center;

10 *SMB*
11 *AI*
12 calculating a second mobile services switching center
13 checksum so as to include the said mobile station;

14 sending a home location register checksum to said
15 second mobile services switching center from a home location
16 register;

17 comparing said home location register checksum and said
18 second mobile services switching center checksum; and

19 sending a location registration signal from said second
mobile services switching center to said mobile station.

1 2. The method as recited in claim 1, wherein said
2 step of comparing said home location register checksum and
3 said second mobile services switching center checksum
4 further comprises the additional steps of:

5 sending an error signal from said second mobile
6 services switching center to said home location register
7 when said home location register checksum and said second
8 mobile services switching center checksum are not equal;

9 setting said second mobile services switching center
10 database equal to a previous correct database when said home
11 location register checksum and said second mobile services
12 switching center checksum are not equal;

13 *Sub A1* 14 sending all logged mobile stations that have been
15 erased from said home location register to said second
16 mobile services switching center after receiving said error
17 signal at said home location register from said second
18 mobile services switching center; and

19 20 subtracting each erased mobile station and adding each
21 newly registered mobile station identities to said previous
22 correct database;

23 24 appropriately adding and subtracting each of said
25 mobile station identities until said home location register
26 checksum and said second mobile services switching center
27 checksum are equal.

1 2 3 3. A method in an first mobile services switching
center for updating location information of a mobile
station, said method comprising:

4 sending a home location register checksum from a home
5 location register to said first mobile services switching
6 center;

7 subtracting said mobile station from a first mobile
8 services switching center database;

9 recalculating a first mobile services switching center
10 checksum to account for the subtracted mobile station;

11 *Sub A1* sending an erasure acknowledge signal from said first
12 mobile services switching center to said home location
13 register; and

 comparing said first mobile services switching center
checksum to said home location register checksum.

4. The method of claim 3, wherein said step of
comparing said first mobile services switching center
checksum to said home location register checksum further
comprises the additional steps of:

5 sending a negative acknowledge signal from said first
6 mobile services switching center to said home location
7 register when said home location register checksum and said
8 first mobile services switching center checksum are not
9 equal;

10 setting said first mobile services switching center
11 database equal to a previous correct database when said home
12 location register checksum and said first mobile services
13 switching center checksum are not equal;

14 sending all logged mobile stations that have been
15 erased from said home location register to said first mobile
16 services switching center after receiving said error signal
17 at said home location register from said first mobile
18 services switching center;

19 subtracting each erased mobile station and adding each
20 newly registered mobile station to said previous correct
21 database;

22 Subr
23 A1 appropriately adding and subtracting each of said
24 mobile stations until said home location register checksum
25 and said first mobile services switching center checksum are
26 equal;

27 erasing the mobile stations that are resent in said
28 logged erasures; and

29 Subr
30 A1 stopping said sending of a negative acknowledge signal
31 from said first mobile services switching center to said
32 home location register when said first mobile services
 switching center checksum and said home location register
 checksum are equal.

1 5. A system for updating location information of a
2 mobile station in a second mobile services switching center
3 when said mobile station moves from an area controlled by a
4 first mobile services switching center to an area controlled
5 by a second mobile services switching center, said system
6 comprising:

7 a first mobile services switching center for
8 communicating with said mobile station and comprising:
9 a compare checksum procedure; and
10 a means for calculating a checksum stored in said
11 first mobile services switching center;
12 Sub
13 a second mobile services switching center for
14 communicating with said mobile station and comprising:
15 a compare checksum procedure; and
16 a means for calculating a checksum stored in said
17 second mobile services switching center; and
18 a home location register for providing data to a
plurality of mobile services switching centers.

TODAY'S DATE: 02/22/04